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Mayer (E. R.)

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SOME OF THE METHODS OF AND  
SUBSTANCES USED IN

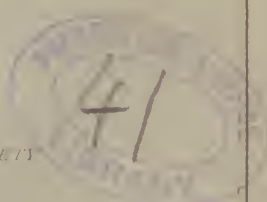
# SPECIFIC MEDICATION,

A PAPER

READ BEFORE THE LUZERNE COUNTY MEDICAL SOCIETY,  
AT PITTSBURGH, PA., SEPT. 13, 1876.

BY EDWARD R. MAYER, M. D.,  
OF WILKES-BARRE, PA.

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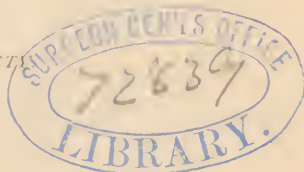
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# HINTS ON SPECIFIC MEDICATION,

BY

EDWARD R. MAYER, M. D.

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One of our most original and laborious investigators and writers upon the subject of therapeutics and materia medica, commenting upon the failure of the prevailing methods of study and the inadequacy of our knowledge as to their results, writes in the preface to his recently published book, as follows: "To me, other points of view, other modes of approach have been far more enticing than those adopted in our standard treatises." "Experience is said to be the mother of wisdom. Verily, she has been in medicine, rather a blind leader of the blind, and the history of medical progress is a history of men groping in the darkness, finding seeming gems of truth, one after another, only in a few minutes to cast each one back to the vast heap of forgotten baubles that in their day had also been mistaken for verities. In the past, there is scarcely a conceivable absurdity that men have not tested by experience, and for a time found the thing to be desired; in the present, Homeopathy and similar delusions are eagerly embraced and honestly believed in by men who rest their faith upon experience." "Looking at the revolutions and contradictions of the past, listening to the therapeutic Babel of the present, is it a wonder that men should take refuge in *nihilism*, and like the Lotos-eaters, dream that all alike is folly; that rest, quiet and calm are the only human fruition?"

The same author follows these sentences by an able protest against the defects of the past methods of enquiry, and by an earnest plea in behalf of a more thorough and exhaustive study of the physiological action of drugs, based upon experiments on the healthy bodies of men and of their cousins of near and remote degrees.

Most of us have keenly felt, if we have not so aptly expressed, the wants and needs of our profession in the present

time, thus dwelt upon by Horatio C. Wood, Jr. We are not yet better satisfied with the greatly improved but still chaotic systems of classification of remedies now in vogue, than some of our number were thirty years ago, with the then prevailing methods of arranging and of considering morbid conditions of the human frame, which, whether consciously or not, impressed upon the minds of the adolescents of that day the notion that diseases were *entities*, *daimona*, to be exorcised and routed out of the system of the sufferer by the farragoes of remedies recommended by the authorities as "said to be" the means of cure.

"We have changed all this now." With our increased knowledge of ætiology and pathology; no longer encumbered by humorism, or the doctrines of Stahl, Bërhaave, Haller, Cullen, Brown, Pinel or Broussais; with the advanced knowledge of the times derived from research in organic chemistry and microscopy; with improved methods and instruments of physical, chemical and electric diagnosis; particularly with our more intimate acquaintance with the great part taken in the life, circulation and secretion of the important viscera, by the complicated and delicate nervous plexuses which control them, we are much more capable than we were of wisely interpreting the deviations from a healthy state of the different parts of the animal frame, and of correctly adapting to these, means of relief founded upon true experience of the action of drugs and of other remedies upon these parts, both in health and in disease.

Still, there is much wanting; and what seems to be one of the pressing needs of the times, is that of the combined attempt on our part to attain to an encyclopedic fullness of history and graphic minuteness of description of the effects of medicine, in small, in medium, and in large doses, upon the *corpus sanum*, derived from constant experiment, such as we of the dominant and so-called regular school are in the habit of deriding, when we read the results described as following the attempt at this *Pathogenesis*, made by those who explore the path solely with the view of establishing one peculiar theory or dogma, "their wish being father to the thought." No one, however, will contend that our having the most complete history of the physiological effects of all the substances of the *materia medica*, would place us in immediate possession of a perfect guide to the therapeutics of these drugs, widely different as the effects of many of them are, in health and in disease. But that such a repertory of acknowledged facts would be a most valuable aid for the institution of comparisons between these effects when diverse, and for tracing the resemblances when they do exist, all will admit. We have also other wants than those that can be met by mere physiological experiment. One of these may be briefly expressed, without

involving any "scandalum magnatum," as the need on our part of more breadth and expansion, not in the adoption or reception of theories, but in the ascertainment of facts about the therapeutic influences of medicines, both of old ones and of new, and of more candor in admitting and willingness to admit the evidence of such actions of these medicines as appear to contradict our own preconceptions of their "methodus medendi."

I have been invited by you to write something for to-day's meeting of our Society, upon the subject of SPECIFIC MEDICATION. To the average practitioner, there is in the very sound of the word "*specific*," a suspicion of a scent in the air in which it is whispered, of some mephitic odor of *Homoeopathy*, or of so-called *Eclecticism*, as if a "*noli me tangere*" or other foul thing were being approached. In my few words upon this noisome subject, I shall endeavor to disinfect the atmosphere which surrounds it, and if possible, with my feeble atomizer to throw upon it a spray of agreeable perfume.

Many of us have not yet gotten over the superstition that all the excesses and the defects of the human system, which—to coin an application of the word—are *endogenous*; and that its diseases which come from without, its *exogens*, should now, as long time ago, be treated by the *Procrustean* rule of lengthening and shortening; by resort to the general principles alone, under which we have been in the habit of depressing and cooling the excited frame, or of soothing or contracting its parts, by sedatives, evacuants, lenitives, astringents, &c.; of building up the enfeebled and depressed one by stimuli, tonics, nervines, excitors; of changing the direction and tendency of the whole mass by alteratives, and of influencing certain organs, only by the already acknowledged oxytocis, errhines, sialogogues, expectorants, diuretics, diaphoretics, emetics, cathartics, emmenagogues, &c.

In this incomplete article I will not presume to suggest any entire "change of base" in these respects, but simply desire to throw upon the important subjects referred to, such light as I can, in a few crude thoughts and hints, and "abstracts and brief chronicles" of the increasing knowledge of the times, all perhaps immature, but capable of further elaboration by you and by me.

I will premise by stating my belief that a greater advance has been made in practical therapeutics, during the last two decades, than in any previous era of the world's medical history, and that this progress has been due largely to the introduction into use and practice, of remedies indigenous to our own continent, by practitioners of our own country. In this centennial year we can point with pride to the fact that to America, the medical world is indebted for the knowledge of the powers of *veratrum*—



viride, gelseminum, hydrastis, collinsonia, hamamelis, cimicifuga, gossypium, polygonum, helonias, viburnum, caulophyllum, ptelea, phytolacca, sanguinaria, iris, podophyllum, diascorea, myrica, leptandra, euonymus, kalmia, populus, xanthoxylum, baptisia, juglans, and of a forest of other potent plants, a few sprigs of which our foreign brethren, under the leadership of the lamented Sir James Y. Simpson, are only now beginning to perceive the merits of. Most of these, I am sorry to say, many of our own eminent teachers are still disposed to hesitate about accepting or even referring to. In the admirable and scholarly essay of Dr. Clarke, entitled "A Century of Medical Science," is given a history of the contributions made to medical progress during the last hundred years, by physicians of our own country, which is truly exhaustive, excepting in one observable respect. In this paper due notice is taken of the re-introduction of the use of ergot, of the discovery of anæsthesia, and of the introduction of the well known veratrum viride, podophyllum, prunus virginiana, geranium, sanguinaria, spigelia, senega, apocynum, eupatorium, lobelia, gillenia, sassafras, sabbatia, and gualtheria, with but a scant and partial one of gelseminum and leptandra, and none of many other medicines which the experience of some of us has led us to consider valuable. I believe that this list of American contributions may, with advantage, be largely extended, and I shall take pleasure in calling your attention to the value of some vegetable drugs which are excluded by Dr. Clarke and by a majority of our learned therapists, as well as to some of the virtues and properties of others to which no reference has been made by them.

The disinclination of many of our teachers to accept new remedies from doubtful sources, is, I suppose, mainly to be attributed to the prevalence among us of that professional rigor and disposition to erectness of attitude, which sometimes causes the medical spine to be deflected backwards from the perpendicular line, and the professional voice to exclaim, "*Odi Danaos et dona ferentes*," when any *non-professional* or *quasi-professional* hand offers a gift, the acceptance of which might have led Moliere's newly fledged graduate to break his oath, "Never to alter the established practice of physic."

Believing that we, "who hold the fort," should have no fear of opening our gates for the gifts of the *Greeks*, whether these be hobbies of dull dead wood, or be pregnant with living armed facts; that the continents of medical enquiry are by Divine right ours, I am rarely disposed to join in the query, "Can any good thing come out of Nazareth?" or out of any other abiding place, or from any platform occupied by real or pretended prophets, whether these be the denizens of field, forest



or city, the cullers of herbs and simples, the extractors of and experimentors upon the active principles of the latter, or the devisers of new theories about them.

I am satisfied that however undigested and indigestible are the statements of the majority of the prepossessed and undisciplined enquirers, who are experimenting upon the skirts of the regular profession, no harm has come, or can come, to the cause of true medical science from an examination by us of the asserted results of their experience, or from a more expansive groping of our own tentacles through a wider field than most of us have yet sought or searched. We are old enough to afford the effort to try other pabulum than our dietetic authorities have hitherto allowed to us, and are able to absorb and assimilate what we can prove to be good, and readily to reject or defecate any, if even the greater part of the offering, if it be found to be husks and bran. We can also afford, if we find the food to be agreeable and nutritious, to be graceful enough to thank the givers of it, and to accord to them what merit they deserve for its discovery and preparation, even if they be not of our own family.

Unlike one class of specialists, who, under the misnomer of *Eclecticism*, reject all the mineral remedies and the better known of the vegetable ones, the uses of which are founded upon the experience of centuries; or, of another still narrower class, who are tied down to the most illogical, as well as the most eccentric and infinitesimal of all the dogmas which have crazed the medical brain, we, who are simply searchers after the truth, from whatever source it comes, who are as far as possible from claiming for our methods the title of *allopathic*, with which the last-named class stigmatise them, are not, and should not be bound down to or by any dogma or theory, but should be able to vaunt that we are as expansive, many-sided and all-embracing, as free as the universe and the forces of nature from which we strive to obtain our knowledge and select our cures, while still remaining conservative, critical and analytic.

To descend from great things to smaller and personal ones, I may now state that such views as I entertain in regard to the *specific action of drugs*, have been mainly derived from experiments and experience during a period of more than twenty years, with and of the properties of the remedies contributed to our materia medica by the indigenous flora of our own country, and that whatever knowledge I may possess of the effects of these, has not been obtained solely from their application to diseased conditions, but that I have, in desultory ways and by general and perhaps unscientific methods, been somewhat in the habit of testing their action in all gradations of dose upon the healthy body.

In this paper I can do no more than give a brief resumé of results supposed to have been observed, and I will do this without pretension to originality, quotation of authorities, attempt at scientific accuracy, or rendering of case or instance, contenting myself with general and perhaps loose statements and suggestions.

Knowing how fallible is the *experience* of man, whether individual or tribal, I expect you to receive this slight record of my own, *with many grains of salt*, and to make due allowance for what you may consider my prepossessions to be.

We all admit the *elective action* of many remedies; that ergot has a specific effect upon some of the uterine fibres as well as upon the vaso-motor apparatus of several vascular organs; that colocynth influences the colon, aloes the rectum, cantharis the urinary tract, tartarized antimony and arsenic the gastric and intestinal mucus membranes; that guaiacum has a relation to the tonsils and palatine arches, cubebs to the pharynx and posterior nares, as well as the lower rectum and urethra; other remedies affecting and selecting the salivary glands, fauces, liver, intestines, heart, kidneys, the sphincters, &c.

The points to which I now desire to call your attention, are:

I. That with a full admission of the accepted views of our profession, as to the "self limitation" of many diseases, we may yet have reason to attribute much of the present fashionable leaning to "the expectant method" and the practical result of this, the feeling, "If he be sick he will recover without physic," to a prevailing conviction of the inadequacy of numerous time-worn remedies, or else to a defective knowledge and appreciation of the qualities of these and of many medicines of comparatively recent and not yet general introduction among us, on the part of practitioners whose experience has led them to adopt this *nihilism*, and to use all therapeutic means in preference to the substances of the *materia medica*. Otherwise we must ascribe this *decadence of faith* to an actual deficiency of our drug resources.

That "mickle is the powerful grace that lies  
In herbs, plants, stones and their true qualities,"

I am more than ever convinced, in spite of the sometimes quoted results of the *numerical method*. We may not employ drugs to the same extent that we did before our other therapeutic resources became magnified; we may not use all of the identical ones once given, or administer them in the same manner; but that we can, if we will, constantly find new developments of their power and fresh instances of their ability to cure as well as to ameliorate disease, I am well satisfied.

The laws which are concerned in the therapeutic actions of drugs *may* and *do* enable us, rationally and successfully, to contravene and to *thwart* those other laws which govern morbid processes and which, without our interference—too often with it—frequently permit the great *limiter* of all to come in and close the scene.

Further, our drug resources are *not* defective in quantity or in quality, but are so illimitable and valuable as to expose us to the annoyance of having an *embarrassment of riches* in our possession of them, and a consequent difficulty in their selection.

II. That it is reasonably certain in some cases and highly probable in others, that one of the wants of our therapeutic systems and armaments, such an extension of them as will enable us to cope with many local affections and especially limited disturbances of the nerves of particular regions, in which our employment of general remedies is often inefficient or tardy, is now being supplied, unwittingly to the great majority of our number; that we are already possessed of a *multitude* of remedies which a considerable experience has proven to be specific to certain parts of the body, and to be influential upon the morbid conditions of these; that the aggregation of these remedies is greater than most of us know or admit, and is being rapidly increased; and that if future writers upon therapeutics care to enlarge their systems of classification, by erecting more hooks upon which to hang their facts, the number of these aids to a division of classes will soon so inconveniently increase, that the search for an appropriate remedy will become, if the accepted methods be retained, as difficult for the tyro, as would the attempt of the ticketless traveler to secure his apparel from among the hundreds of pigeon-holes of the cloak-room of a large hotel. If I be right, we may then have our frontals, temporals, occipitals, maxillaries, our pharyngitics, tonsillants, glossitics, laryngitics, splenitics, pancreatics, duodenals, colonics, rectals, cystics, prostatics, as we now certainly have our sialogogues, errhines, mydriatics, cardiacs, &c.

III. The time has not come for any of us to indulge largely in speculative explanations of the phenomena of drug action, the attempt to do so having hitherto resulted in the formation of systems, the conclusions of which have been confusing and ludicrous.

Yet from our present knowledge of the influence of the vasomotor centres and filaments of the nervous system, we are led to believe that many drugs which in full doses, irritate, congest or cause other devious and abnormal actions in certain organs and parts of the economy, do so by either stimulating or paralyzing, accelerating or inhibiting, or in some other obscure manner

changing the power of these separate brains and controllers of the functions of the parts supplied by them. As the drug which through these channels has a specific direction towards any one part of the organism, exerts upon this, in large doses, its injurious and sometimes destructive effect, is it not reasonable to suppose that the same tendency and direction existing in it may be, and often are, used by us to influence the same part in a modified, less pronounced, and even salutary manner? Small doses of digitalis will steady and control the same heart which has been made to flutter and beat tumultuously under large ones. Dr. Fordyce Barker has recommended the treatment of the hemorrhoids of pregnant women and of others by small doses of aloes, and his views have been amply confirmed. Sydney Ringer recommends as rapidly curative of the *flushes* that certain delicate women are liable to, doses of from the tenth to the thirtieth of a minim of that active and violent *flusher* of the surface and averter of a rigor, the *nitrite of amy*! I have used these, in a few cases, with considerable success, and in one instance have controlled by them the repeatedly occurring alternations of chilliness and of flushings in the latter stages of continued fever, which quinine had failed to relieve. The same author advises the use of drop doses of tincture of cantharides, as curative of chordee, of cystitis, and of hæmaturia; of drop doses of liquor arsenicalis for nausea, and of the one-hundredth of a grain of the bi-chloride of mercury for dysentery and the diarrhœa of typhoid fever. Ipecacuanha and calomel, both of them nauseants and emetics, are now used by all of us, with eminent success, in minute doses, to relieve nausea and bilious vomiting. I know that drop, or less, doses of iris, or of podophyllum tinctures, those drastic purgatives, will often relieve the diarrhœa of cholera infantum and of cholera morbus; that hydrastis, which is not a purgative, and which has a peculiar tonic and astringing effect upon the mucous surfaces, and which, given in large doses, will often produce as excessive a coryza as will iodide of potassium, is very effectual in small ones, for the relief of constipation and of nasal catarrh; that collinsonia will in excessive doses provoke dysury, and in small ones, like cantharis and cannabis, often relieve some forms of it; and so on, *in extenso*. I am as far as possible from supposing that such facts as are above recited, or others like them, constitute any foundation for the belief in the existence of one general law of the operation of drugs. They are facts, but are partial ones, and are only to be set up against numerous other facts of a very opposite character, and to be modified by the evidence that, in most instances, the similitudes of the different drug diseases which we call the physiological effects of medicines, to the morbid conditions which they are supposed to resemble, and by some to cure,



are more apparent than real, and are always attended by marked differences. It is unfortunate that many enterprising workers, whose efforts in a higher direction might have done much to advance the cause of our science, have been led by their notice of these partial likenesses, to attribute to the existence of one omnipresent law, results that could have been much more simply explained by even a reference to the old doctrines of *alteration*, or to those of the *substitution* for a diseased process, of a medicinal impression of less severity.

IV. I should urge more attention than has been given to the widely different effects in degree and the often diverse effects in kind, of small and of large doses of drugs which may be found to be specific in their action, with the hope of attaining an enlargement of our therapeutic armament and modes of applying its munitions, as well as in some cases, a diminution of the size of our weapons. We may thus be enabled to entirely replace the *crevelin* and *blunderbuss* still used by some of us, by mitrailleuses and rifled breech-loaders.

In pursuing this line of enquiry and experiment, I see no reason for fearing that any of us will drift upon banks of shifting sand, land upon uncertain ground, or be engulfed in the vortex of such a maelstrom as is presented by the circular eddy and narrow dogma, that all medication must be founded upon the notion of *like curing like*, and that of the magnetism of the operator and the infinite subdivision of the remedy adding to the efficacy of the latter.

It may seem gratuitous to make even a reference to a system, the majority of the most learned and accomplished advocates of which—and many of them have these qualities in an eminent degree—are now professing to use with certainty, the first and second thousandth centesimal triturations of their drugs. So potent do they assert these to be, that a single dose of one of them, if properly aimed, will effect a cure in the most obstinate chronic maladies, if only the practitioner be not too energetic in repeating the dose. Months must elapse before the repetition, or a most disastrous aggravation of all the symptoms may be produced by the single rash act of the placing upon the tongue of a globule of the same potentized poison. It was demonstrated by the late Sir James Y. Simpson, that the use of the thirtieth homeopathic dilution, which was recommended by Hahneman as the most appropriate dose of every drug in every disease, essentially involves the employment for each dose, of a globule of sugar, moistened by being dipped in a drop out of an ocean of fluid, one hundred and forty billions of times larger than our whole planetary system, which ocean had been medicated for the purposes of homeopathy, by having dissolved and mixed through

it, one single grain or drop of the appropriate drug. It would require a larger acquaintance with the apparently limitless firmament, than our astronomers possess, to map out the extent of the universe occupied by the space that the one thousandth multiplication of the homeopathic granule would represent.

The wide-spread prevalence among us of this delusion does, I think, justify more than even a passing notice of this system. The published provings of some homeopathic writers, particularly of Hale and of others who have professed to give the *pathogenesis* of our own indigenous remedies, contain a large number of facts as to the physiological action of medicines, which are worthy of much more attention than we have given them. Most of our authors, finding these facts, if they admitted them to be such at all, to be "*rari nantes in gurgite vasto*," and floating in a sea of imaginary symptoms and a chaos of contradictory statements, have not deemed them to be worthy of the trouble of separation, and have passed them by with contemptuous silence. Some of these statements, if carefully culled and confirmed, might, I think, be advantageously added to our own physiological repertories. As to the practical results of the methods of these dilutionists, *haud inexperto credite*, a few simple experiments with the non-sapid and *non-sensible* of the lowest triturations or dilutions of their *Polychrests*, as they are grandly termed, aconite, belladonna, bryonia, chamomilla, rhus, pulsatilla, &c., would soon convince any unprejudiced and unexpectant mind, that these will neither harm the patient nor the disease.

Heat, light, electricity, and magnetism are now acknowledged to be only different modes of motion, manifestations of force, or properties of matter, correlated, probably convertible, but persistent in degree. Under the influence of these modes of force, do most, or all, of the chemical, mechanical, and vital changes of the body occur, in obedience to unvarying law.

Were the theories of the homeopaths as to the dynamization of their drugs by dilution and trituration, true, we would be compelled to admit such a storing up in the apparently harmless powder or tincture, of force derived from the will or the muscles of the mixer, as would negative all the provings of science as to the convertibility and equivalence of force. Force cannot be annihilated, but may be subdivided or altered in character or direction. Were it the fact that the force eliminated by the human brain or arm in triturating or shaking a substance, added immensely and in a geometrical ratio to the therapeutic potency of the result, it should follow that this force, instead of being scattered or diverted, would be concentrated and imprisoned in the potentized medicine, and from it, be capable of liberation, and in it, of being estimated by the photometer, calorimeter, galvano-

meter, polariscope, or other recognizers and measurers of force known to science. Otherwise, this Hahnemanian method of securing the metamorphosis and transfer of energy, before and since unknown to our common-place physicists, should either result in causing the formation of crepitant and fulminating compounds dangerous to deal with, or should endow the instruments employed, the before harmless mortar, pestle, and vial, with new and extraordinary properties.

Truly, the apothegm of Paracelsus, that father of all the quacks, who was the first to announce that "like attacks its like, and never its contrary," that "*spirituales morbi spiritualiter curari debent*," might well be translated in these post Hahnemanian days—"imaginary diseases require imaginary medicines."

Even should we discover, however, that to a limited extent, and in certain peculiar instances, the gentle touch of the whip, the really potent minimum dose of a medicine *docs* stimulate the halting or lazy organ into a normal pace, while the same part may be lashed into a furious runaway by the violent application of the means, are we to jump to the conclusion that the small and the large of all other modes of treatment bear the same relation to each other; or to extend our credulity still further, and believe that the minutest ultimate fibril of the thread of the lash will be more active in persuasion, than so much of it as is tangible; or still further, to be led to ignore our other immense resources, the well-proven, vital, and chemical remedies which are potential only in the fullest doses?

My conclusions upon this important topic are :—

1st. Our present knowledge is such as to warrant the statement that many well-known departures from health are capable of uniformly successful treatment by medicines which are specific to these, or to the functions of the parts concerned in them; that these medicines have in different doses, widely different effects upon the organs or parts to which they have a specific relation; and that such remedies are often most efficient when given in the smallest doses that are potential, but that such minimum doses must be still large enough to possess in full force the sensible properties of the drugs they represent.

2d. That the drug having a curative relation to a part, or to a function, proves to be remedial, because of some unexplained inherent specific elective tendency to the same, and of its control over the nervous filaments which support the life of the part, and not because of any power in it to produce in health, the exact condition which it is found to relieve; it frequently being a medicine which under no circumstances, causes, a physiological effect at all resembling the morbid condition for which it is beneficial.



3d. Analogy and increasing knowledge of the physiological action of certain drugs, lead to the belief that the field of specific connection between drugs and symptoms is wider than is commonly supposed. It should, then, become our duty to explore this field intelligently and industriously, and to determine the relationship between the manifestations and expressions of disease and those of the different drug diseases, without at all neglecting the general or local pathology of the system, or of its parts.

The signs of the times are all pointing to the probable early fruition of the hope expressed by Stillé, in the concluding paragraph of his chapter upon specific medication, "that future investigators will throw light upon this most obscure department of experimental physiology, which must hereafter furnish the securest basis for a science of therapeutics, if such a science is possible." The recent works of Sydney Ringer and of Charles D. F. Phillips, of conservative England, particularly the first named one, which is remarkable for boldness, originality, and erudition, are full of novel suggestions, as well as of experiments in this field. It is only necessary to read the articles of Ringer, upon arsenic, hamamelis, nitrite of amyl, ipecacuanha, veratrum, nux vomica, actæa, podophyllum, and aconite, and of Phillips, upon pulsatilla, hydrastis, cœculus, and bryonia, to be satisfied that a great advance in the direction I have indicated is now being made, or attempted. In our own country, evidences of much earlier and more inventive research and progress are wide-spread. The writings of Dr. Scudder and of others of his school are full of original ideas and of verified experience in the same direction, and we may, if we will only enter the openings made by them, have access to mines full of rich layers of ores, badly stratified, and full of "faults" as these latter may be.

4th. In experimenting with and prescribing vegetable medicines, we will avoid the common error of casting aside as useless, many valuable remedies because of their inefficient preparation, by mainly employing the concentrated tinctures or fluid extracts provided from fresh or recent plants, by the most reliable manufacturers, or by preparing these ourselves. By the use of these in diseases, we will generally obtain more satisfactory and uniform results than from that of other preparations of the drugs, excepting when they or their reliable active principles can be administered in powder or in granule. Besides this consideration, these are concentrated and portable, and permit of their *personal* use by the physician, mixed *pro re nata* with water, or other vehicle. This method of supplying a medicine which is not too sapid or bulky, is always more safe, often more convenient, and generally more acceptable to the patient, than that of having it compounded with the usual adjuvants and corrigents. A simple pocket case

containing the concentrated tinctures of aconite, caulophyllum, cimicifuga, collinsonia, gelseminum, drosera, hamamelis, hydrastis, iris, podophyllum, polyporus, phytolacca, pulsatilla, viburnum, and veratrum, with nitrite of amyl, solution of morphia, and a reliable ergotal preparation; granules of morphia, atropia, digitalin, and leptandrin; a mercurial, an antimonial, a bismuth and an ipecacuanha powder, the concentrated solution of quinia in lactic acid, and a hypodermic syringe, constitute as efficient an armament as one needs for most of the emergencies of daily professional life. With the aid of these, many of the neuralgic and of other depressed nervous states, cerebral pain and fullness, muscular pains and cramps, asthma, angina pectoris, catarrh, coughs; the febrile, inflammatory and convulsive conditions and tendencies, colic, constipation, chills, hepatic torpor or congestion, diarrhoea, dysentery and dysury, hemorrhages and hemorrhoids, and the varying conditions of menstruating and of parturient women, may be promptly met.

V. I will now close this article with a brief summary of what have seemed to me to be the prominent characteristics—and where they exist, or have been recognized by me or by others,—the specific properties of a few of the most important of the large number of valuable indigenous remedies of this country; the want of a system of classification appropriate to these, compelling me to refer to them in alphabetic order.

*Æsculus Hippocastanum*, or *Horse-Chestnut*, and *Æsculus Glabra*, *Buckeye* are chiefly used for the effects of the rinds of the nuts, from which, when recent, a tincture may be made. This, in large doses, has a powerful, even a toxic effect upon the nervous system, supposed to be not unlike that of the *strychnos nux vomica*, and has qualities which make it worthy of study and experiment. My experience of these is confined to that of the properties of the *æsculus hippocastanum*, and is limited, but is such as to lead to the belief that the popular notion of the efficacy of these nuts in hemorrhoids is not unfounded. In a few of the rare cases of the hemorrhoidal condition which have not yielded to *collinsonia*, *hamamelis*, *verbascum*, and local treatment, it has seemed to me that decided benefit was derived from the use of small doses of the tincture of horse-chestnut.

*Apocynum Cannabinum*, or *Indian Hemp*, called by the eclectics "the vegetable trocar," is, in large doses of the decoction, a most efficient means of reducing the effusion in general dropsy, which is unconnected with organic disease of the heart or liver, and in which albuminuria is not present. I have not found any benefit to result from the use of less doses of it than

would produce active catharsis, or from any doses of other preparations than the one mentioned.

*Asclepias Tuberosa*, or *Pleurisy Root*, I have found to be, in small doses of the tincture, an excellent diaphoretic and sedative, particularly when given in conjunction with *veratrum viride*.

*Baptisia Tinctoria*, or *Wild Indigo*, is certainly a potential medicine for good or evil, and is now being largely used by certain practitioners, in the treatment of typhoid fever and of malignant ulcerations. In large doses it produces a feeling of great prostration and tremor, with general soreness and rheumatic pains, dull headache, tinnitus aurium and vertigo, gastric distress, abdominal pains and diarrhœa. My own experience of its therapeutic effects is limited, but I believe that it has in my hands proved advantageous as a gargle or lotion, in corroding ulcers with fetid discharges. In such cases, I have used the tincture mixed with glycerine and water. In typhoid fever, given in doses of two or three drops of the concentrated tincture, upon the setting in of diarrhœa, I have believed it to have exerted a marked influence in controlling this symptom, in lessening tympanitis, and in lowering the temperature and pulse.

*Caulophyllum Thalictroides*, or *Blue Cohosh*, acts upon the nervous and muscular systems very much as does *cimicifuga*, and like the latter, has a special direction to the female generative organs. I have found it to be very useful in long continued small doses, in the malaise, nervousness, back-ache and pelvic pains of irregular or defective menstruation, and either alone or combined with *polygonum* or *xanthoxylum*, to be an efficient emmenagogue and corrector of various abnormal uterine conditions. As a parturient and oxytocic it is invaluable. In inertia uteri, it will, almost uniformly and in a short time, compel contractions and steady and regular pains, and in this respect it is much more safe and manageable than ergot, if not quite as prompt and energetic. In such cases, I give it in five or ten drop doses of the concentrated tincture, every ten minutes. After-pains or excessive lochial discharges are also greatly under its control, as is frequently ordinary menorrhagia.

It has, in small doses, a decided power of relieving muscular pains, and is in this respect also like *cimicifuga*, excepting that its influence is more directed towards the small extremities. I have found slight gouty or rheumatic pains of the smaller joints to rapidly disappear under its use, but have not found true arthritic swellings to be removed by it.

*Chelone glabra*, *Balmomy*, and *Chionanthus Virginica*, *fringe tree*, have, I am satisfied, a specific action upon the liver, and I have found each of them useful in some cases of torpor of that organ, and of slight jaundice, but I do not consider them as oc-

cupying the first rank in this respect and should use them only as adjuvants to more powerful remedies.

*Cimicifuga Racemosa* is so well known as scarcely to require a notice, but I would call your attention to certain of its properties. Like caulophyllum, though in a less degree, it is an excellent "partus accelerator" and gives tone and strength to the uterine contractions. It lessens and often controls post-partum hemorrhage and menorrhagia, and relieves after-pains. Its effects in chorea, of supposed rheumatic origin, and in many disturbed states of the nervous system are well known. It appears to have a specific relation to the whole spinal column and more especially to the lumbar and sciatic nerves. I have in several instances, known drachm doses of the tincture to develop violent lumbar and sciatic pains in delicate women, who had never before experienced pain in those parts. It is capable, even in small doses, of producing frontal pain, dizziness, insomnia and tremor, in patients with impressible nervous systems; yet in the same persons, and in others, in greatly reduced quantities, it will often give immediate relief to supra-orbital neuralgia, and act as a calmative and hypnotic. Alone or combined with kalmia, in doses of a few drops of the tinctures, it is one of the most efficient remedies known to me for that neuralgia of the first branch of the fifth pair, which is frequently called *brozo-ague*, in this and in other malarious regions. Alone or combined with gelseminum, each in small doses, it usually controls and dissipates the painful rheumatoid irritation of the spinal tunics, the pleurodynia, lumbago and sciatica of menstruating women, and is often efficacious in the same and in various other pains and cramps of both women and men. The rheumatic arthritis of the carpal and tarsal, metacarpal and metatarsal joints will often yield to it, more rapidly than to colchicum and to the iodides.

*Collinsonia Canadensis*, or *Stone Root*, seems to direct its energies to the mucous membranes, more particularly to those of the pharynx, rectum and urinary tract. In full doses it is an admirable remedy in follicular pharyngitis and in some cases of dry laryngeal cough. In medium doses, it has seemed to me to favor appetite, digestion and assimilation. In large doses, it is a powerful and sometimes irritating diuretic, occasionally provoking dysury. In minute ones, I have found it to be the best alleviator and corrective of the urethral irritation so common in pregnancy and in uterine engorgement and displacement, as well as of prostatic and other urethral pains in males. In hemorrhoids attended by constipation, particularly in those which rarely bleed, it is certainly an admirably specific remedy, often, however, requiring the addition of hamamelis.

It has happened in my practice, on two occasions of late, that the use of collinsonia in small doses, for dysury in women who had, during several months, menstruated scantily, was followed not only by eu-diuresis, but by profuse and in one of the cases, excessive menstrual flow. In a case, also of recent occurrence, of dysury and retention of urine occurring on the sixth day after the instrumental delivery of a *primipara*, and coexistent with partial suppression of the lochia, the use of this medicine, in doses of five drops of the tincture four times daily, was followed not only by free and easy evacuation of the bladder's contents, but by a great increase of the lochial flow. I know not whether these results were *propter-hoc* or simply *post-hoc*. The phenomenon was, however, in each case so marked, as to lead me to the suspicion of the relation of cause and effect, and to the intention of further testing the possible emmenagogue powers of the drug. According to Hale, this medicine has been used advantageously by homeopathic writers, in dysmenorrhea. a

I have frequently known the restoration to a normal state of the male urethra following the use of this drug, to result also in the great relief of long existing seminal discharges and generative debility.

*Dioscora Villosa*, or *Wild Yam*, I have not found to be the certain remedy for colic, which it is reputed to be, among the eclectic practitioners, possibly because of the difficulty of securing reliable specimens of the drug, or of its active principle, *diascorein*. At least, in my experience, when relief has been obtained by its use in flatulent colic, very large doses of the medicine were required. In such doses—ten or fifteen grains of *diascorein*—it has sometimes been efficient and always has seemed to exert a marked anodyne effect upon the splanchnic nerve centers. I have little doubt that it is generally capable of allaying gastro-intestinal pain and irritation, and of expelling flatus. From very small, but still very sapid doses of *diascorein*, the tenth of a grain for instance, triturated with sugar, I have frequently observed a marked increase of tone in the male genital organs. I do not consider it to be an aphrodisiac, but have found that a decided and continued increase of sexual vigor has been a common result of its prolonged use in such doses.

*Drosera Rotundifolia*, or *Sun-dew*, found in other countries than our own, is worthy of special attention as a valuable medicine, too little known among us. It is remarkable for its influence upon the pneumo-gastric nerves, and for its power of controlling or quieting dry, irritating and spasmodic coughs, whether those of phthisis, chronic bronchitis, pertussis or rubeola, or those which are due to nervous irritation and sympathy. It is also unquestionably an invigorator of the appetite, and a



promoter of digestion and of assimilation. I have frequently known patients emaciated by the two first mentioned diseases, to gain rapidly in flesh and in strength, after its use during several weeks. I have been in the habit of giving it in doses of from five to twenty minims of the concentrated tincture, before each meal.

*Erigeron Canadense*, or *Canada Flea-bane*, is an excellent hæmostatic and styptic, being very successful in its control of chronic and passive hemorrhages, particularly of those from the uterus and kidneys. When ergot, hamamelis and the chloride of iron fail in such cases, great benefit will generally accrue from the use of the oil of erigeron in five or ten drop doses. The tincture, or fluid extract, are also similarly efficient, but in a less degree.

*Gelsemium Semper-virens*, or *Yellow Jessamine*, is dismissed by our own best and latest writers upon therapeutics, after a brief notice devoted mainly to an account of its toxic powers. Ringer discusses it with equal brevity, and one looks in vain for even its name in Phillips' Index.

*Gelsemium* is properly classed among the *depresso-motors*, and is called by Stille, a *nervous-sedative*. Without a reference to the physiological or poisonous effects of this powerful drug, and with the statement that, except in the single case of coryza, I have not derived from its use, in very small doses, any of the specific effects in local diseases that I have referred to as characterizing other medicines, I will give briefly, my own experience with it, the result of its constant employment during more than twenty years.

I have been in the habit of using it as an analgesic, calmative, hypnotic and lessener of cerebral fullness and force of circulation; as a motor-depressor and relaxant of tension and spasm of both the striped and the non-striated muscles, and as a nervous, and in a less degree, an arterial sedative. So serviceable has it been and is it to me, that I could more readily dispense with the employment of opium, of the bromides, belladonna and chloral, than with that of this heroic remedy. It is my custom to employ gelsemium as a soporific and calmative in many cases in which opium, hydrate of chloral, hyoscyamus, lupuline and lactucarium are not efficient or admissible; in many, by preference, in which the employment of the two first-named is not eligible, because of the entire absence of disagreeable sequelæ from the use of this drug in moderate doses, and of the improbability of the habit of relying upon it being formed. It is my favorite remedy for quieting the hysteric paroxysm and for preventing the outburst; for controlling and lessening the disposition towards puerpural eclampsia, epileptic fit, or infantile convulsion, and it is my almost unfailing

resource in the nervousness of drunkards, in delirium tremens, and in similar conditions. In frontal and occipital neuralgia, and in maxillary pains, whether these latter be caused by miasmatic influences, exposure to cold, or the violent machinery of the Dentist, it is frequently the *summum bonum*. Muscular rheumatism, particularly the sub-scapular, inter-costal and lumbar varieties; sciatica and various other neuralgiæ, often, very generally, yield to it or find it to be a powerful adjuvant to other means of cure, particularly as when combined with *cimicifuga* or *phytolacca*. For the myalgia of fatigued and over-worked muscles, it is an efficient remedy, and it is at least a *placebo* for the analogous condition of *irritable heart*.

In addition to its power over convulsions and muscular pains and cramps, it is a most efficient relaxant of spasm in the involuntary muscles, and thus often aids in the relief of asthma, of laryngismus stridulus, singultus, tenesmus and dysury. It assists us in the reduction of hernia by the taxis, and above all other qualities, has that of being a boon to the weaker sex, by relaxing the contracted os uteri in dysmenorrhea, in abortion, and in labor. In the latter, its effects are so prominent and assured that I never fail to give it in any case of rigid os, and often administer it in the inception of labor, as a relaxant and preventive of rigidity. I am sure that since this has been my custom, my average time of attendance upon such cases, has been very materially lessened. In rare instances of extreme rigidity, I have been compelled to add to the gelseminum, one or two full doses of *veratrum viride* and have never known the combination of these to fail to soften the hardest and sharpest uterine ring. It will of course follow from what I have said, that if my statements be correct, the first stage of labor is very much shortened by gelseminum, and the distressing *grinding pains*, with all their attendant misery, sooner converted into expulsive ones, than in unassisted parturition. So great, however, I am disposed to think, is the loosening effect of gelseminum upon the uterine fibres, that after its use in large doses, post-partum contractions are not always as firm as they should be, and that it ought to be supplemented by a dose or two of ergot or of *caulophyllum*. Such is my habit, and I do not find my labor cases to suffer from the alternation of the two opposing medicines.

I have never known a case of hour-glass contraction of the uterus to occur after the administration of gelseminum during the labor. The cerebral fullness generally existing throughout the process of parturition, and which makes the chloroform anæsthesia so much safer in this than in other conditions, also seems to ensure to the patient, a remarkable exemption from the toxic effects of gelseminum. The doses of this drug, which would



ordinarily cause ptosis, double vision, &c., may often be doubled or even quadrupled in labor, without immediate or subsequent unpleasant results.

*Gelseminum*, more rapidly and permanently than any other medicine, relieves the *malaise* and wandering pains of ague. It adds to the efficacy of quinia and of other anti-periodics, and by quieting the heart and calming the perturbed nervous system in all the malarious fevers, does much to assist the action of other remedies. It lessens the tinnitus aurium and nervous disturbance so often caused by quinia and by salicylic acid, and permits of the use of larger doses of these, than could otherwise be given.

I have not found it to be as beneficial in *coughs*, as it is of late reputed to be, excepting as these are associated with glottal, laryngeal, or bronchial spasm, or with the pains of pleurodynia, but I have been in the habit of combining it advantageously with veratrum and antimony, in croup, pneumonia and bronchial coughs. In truly neuralgic angina pectoris, it generally gives prompt relief, acting even better than the nitrite of amyl. I have not found it to be of service in gastric or in intestinal pains or cramps.

It will often, particularly when associated with quinia, break up the chain of nervous phenomena in autumnal catarrh, and I regard it as the best remedy for, and preventive of this disease. During the past week, I have known the frontal and orbital neuralgia, the profuse lachrymation, the fluent coryza and constant sternutation, the cough and the muscular pains of a severe case of this disease, all to vanish in less than forty-eight hours, under the use of four grains of the bi-sulphate of quinia and of six drops of the concentrated tincture of gelsemin, given every four waking hours. To which of these drugs shall the credit be given?

Gelseminum in a single full dose, will often cause influenza and coryza to abort. I have found minute doses of it and of hydrastis, sometimes those of either separately, to relieve and break up the snuffling colds of infants and of adults.

Irritation, not only of the vesical sphincter, but of the bladder and the posterior portion of the urethra, often yield to gelsemin. Spermatorrhœa is frequently under its control, and I have known many cases of this affection to be apparently cured by nightly doses of it, gradually increased up to the point of sensorial endurance. So, will too frequently repeated nocturnal emissions, be greatly lessened by it. Full doses of it at bedtime are the most certain preventive of chordee. Cases of enuresis, both infantile and senile, have under my care, been cured by this medicine, when belladonna had entirely failed.

I have been in the habit of administering the fluid extract of gelseminum, and the concentrated tincture of gelsemin, preferring the latter preparation. I usually give this last to adults, in doses of from three to six drops, every three hours, often pushing it up to those of seven or eight drops, or until the moderate toxic effect upon the sensorium and eyes is produced. These effects can be caused to continue or to abate as we choose. I have found the administration of the aromatic spirits of ammonia, to decidedly lessen them. They soon evanesce, however, when not excessive, and are not followed by disagreeable results, or even by unusual languor. The physician, who, owing to the use of an excessive dose of gelsemin, or to the idiosyncrasy of his patient, produces in him diplopia, followed by blindness and complete immobility of all the voluntary muscles, will be disposed ever after, to use this drug very cautiously in each untried case.

*Gossypium Herbaceum.* The bark of the cotton-root, is, as you well know, regarded by some as an abortive and oxytocic. I know it to be an active and safe emmenagogue in drachm or less doses of a reliable fluid extract. Alone or combined with polygonum or with xanthoxylum, perhaps with sabina, and given four times daily, during several days before the expected time of menstruation, it will generally, in amenorrhea or in dysmenorrhea, provoke profuse, continuous and painless flow. Alone, it is an anodyne to the sentient nerves of the uterine region. In addition to these properties, I am satisfied that it is a decided hypnotic, by a direct influence upon the brain. Its use in full doses, is followed by slight mental dullness, an agreeable feeling of languor, and by decided sopor, not immediately due to the relief of hypo-gastric or of other pain.

*Hamamelis Virginica*, or *Witch-hazel*, certainly has a specific action upon the venous system, and is, independently of its content of tannic acid, an astringent and tonic to weakened, engorged and dilated veins, to venous sinues or capillaries, and a rarely failing remedy for all the passive hemorrhages. I am in the habit of successfully treating, by its internal use, many cases of epistaxis, hematemesis, hemoptysis, hematuria, passive uterine hemorrhages and those of typhoid fever and of dysentery. In bleeding piles, its good effects are most marked. Its continued use, in small doses, will also frequently cause the largest hemorrhoids to contract and to disappear, if great infiltration and thickening of the cellular tissue have not occurred. In these cases, the local use of the decoction, or of an ointment or poultice of the medicine, adds much to the success of the treatment.

The enlarged spleen, particularly that which is due to inflammation or obstruction of the portal vein, will often shrivel under the use of hamamelis, and I have found its employment to add

much to the efficacy of the hypodermic use of ergot, recommended by Dr. DaCosta. I am well satisfied that the general portal engorgement and obstruction which are such common results of malarial exposure, are greatly under the control of this medicine, and suspect that its power over hemorrhoidal fullness, is dependent on its influence upon the general portal circulation. This influence, probably, gives to it the power which it has of controlling the venous congestion of the mucous surfaces in dysentery, in ordinary diarrhœa, and in that of typhoid fever. Uterine engorgements have not, under my administration of it, yielded to this remedy as I would have expected them to do.

The most brilliant results follow the application of lotions of witch-hazel mixed with water, to varicocele and to other varicose enlargements. In phlegmasia dolens, it is the most effective dressing, and it is an admirable and useful application to sprains, ecchymoses and to all surfaces, the venous capillaries of or under which have been bruised, torn or engorged.

I give hamamelis, in doses of from two to five drops of the concentrated tincture, add an ounce of the same to a pint or more of water, for a lotion, and use the extract or the inspissated decoction, for poultices or ointments.

*Hydrastis Canadensis*, or *Golden Seal*. The preparations of this plant constitute potent local applications as well as internal remedies, in fluxes and conditions of stasis and congestion of the mucous membranes. I know of no better local treatment for chronic catarrh of the schneiderian and eustachian membranes, for chronic conjunctivitis and faucitis, gleet, balanitis, and vaginal leucorrhœa, than that of the application to the parts involved, of a decoction of hydrastis, or preferably, of a solution of the muriate of hydrastia in glycerine.

The physiological effects of large doses of hydrastis, are, mental dullness and lassitude, often distressing catarrhal trouble and painful affections of the fauces and pharynx; gastric and intestinal fullness, pain and colic, flatulence and hypochondriac tenderness.

In small doses, it is a decided tonic to the gastro-intestinal tract, an invigorator of appetite and of digestion, a carminative and a remedy for constipation, which is dependent upon torpid liver. It is specially efficacious in chronic catarrh of the choledic ducts, and in the icterus which often follows this condition of these tubes, and the attendant duodenal irritation, and I think that I have found it to be of material service in the treatment of *biliary calculi* and of the tendency to their formation, after a course of *podophyllum* or of *leptandra* and of Carlsbad water.

In nasal catarrh, acute or chronic, even occasionally in ozæna, I have derived more benefit from its use, in small doses,

than from that of any other remedy given internally. I have been in the habit of assisting this employment of it, by the local application of the decoction of it, or of the solution of hydrastia.

In chronic and obstinate constipation, very small doses—a drop or two of the concentrated tincture, for adults, and a fraction of a drop for children—have proved to be very efficient, even more so than nux vomica or belladonna given in the same manner, this use of the remedy often preventing the habitual resort to drastic or other purgatives.

I believe that hydrastis, in full doses, is often an effectual remedy for intermitting fever. I have found an oft-repeated dose of a half-grain of the muriate or the sulphate of hydrastia, with the same quantity of one of the carbazotates, preferably that of ammonia, more effectual than quinia, in some cases of obstinately recurring intermittents. Hydrastis, or hydrastia, in ointment or glycerole, constitute admirable applications for granulated eye-lids, for external hemorrhoids, for prolapsus ani, or fissured anus, for cracks of the nipple, chapped lips, and for various forms of ulceration, particularly the corroding ones. The strong glycerole of hydrastia, with or without tannic acid, is one of the best applications to the enlarged follicles of chronic pharyngitis.

*Iris Versicolor*, or *Blue Flag*, is a powerful cathartic, nauseant, alterative, diuretic and sialogogue. It is, in large doses, efficient as a hydragogue in many forms of dropsy, and alone or combined with podophyllum, generally acts well and powerfully in relieving the congested liver and portal circle.

By its powerfully purgative operation, it doubtless contributes greatly to the increase of the biliary flow, in cases of hepatic torpor, and its action in this respect is often only second to that of podophyllum, but its specific cholagogue properties are not as marked as those of that drug. It appears to influence the pancreatic secretion specifically, as it does that of the salivary glands. In cases of defect of this secretion, it is a valuable remedy, and it is, in small doses, extremely efficient in relieving duodenal dyspepsia connected with such deficiency. Many cases of duodenal pain and distension occurring several hours after a meal, and attended by sympathetic head-ache, yield promptly to oft-repeated doses of a few drops of the tincture of iris.

In sick headache, supra-orbital pains connected with gastro hepatic functional disorder; in obstinate vomiting from the same causes, and in cholera infantum with green discharges and constant vomiting, I have habitually found great benefit from the use of very minute doses of the tincture of iris. I have no knowledge of its reputed good effects in prostatitis, in seminal emissions, or in enlargement of the thyroid and of the spleen.



*Leptandra Virginica*, or *Culver's Physic*. If there be any *cholagogues*, which it is now the fashion to doubt, this plant is certainly *facile princeps* among them. Without exerting the powerful influence upon the intestines, or causing the immediate apparent increase of the biliary secretion that we obtain from the use of aloes, podophyllum or of iris, its action as a laxative is mild and persistent, and the evacuations produced by it are similar to those which follow the administration of *fel bovis* or of *cholcate of soda*.

An extension of the doctrine of "the signatures of plants," would have led "the fathers," if they had known of and tasted the root of *leptandra*, to attribute to it, anti-bilious properties. Its preparations are more abominably gall-like in their sapidity, than those of any other drug known to me.

*Leptandra* seems to stimulate the whole intestinal tract and to influence the portal circle. It is warming and cordial in its action, gives more prompt and speedy relief to flatulent and to bilious colic than does *dioscorea*, relieves hepatic and cystic and ductal congestion and engorgement, and restores the functional activity of the liver, when torpid, more rapidly and permanently than does any other single medicine known to me. Were I to except any other drug from this sweeping comparison, it would be podophyllum.

In my experience, there have been few cases of hepatic torpor, or of chronic congestion of the liver, of catarrh or obstruction of the gall-bladder, or choledic ducts, which have not yielded to *leptandra* alone. When this has failed, rarely has anything been required but the addition to it of *hydrastis*, or when more decided action was needed, of podophyllum or of iris, of Mettauer's alkaline solution of aloes, or of the bitter or of the salo-alkaline mineral waters.

In the cholesteræmia, and various derangements of the nervous system, circulation, digestion, respiration, &c., so well described by Austin Flint, Jr., and by Murchison, as the results of failure of the liver to eliminate its proper excretion, *leptandra* and podophyllum with a course of Carlsbad or of Marienbad water, and a suitable diet, have been, within my experience, uniformly remedial.

In the constipation of infants or of others, when a purgative becomes necessary, the addition of small doses of the fluid-extract of *leptandra* to those of senna and rhubarb, makes an excellent and agreeably acting compound.

*Leptandra* is an invaluable remedy in malarious districts. It excellently supplements the use of quinia. Its continued use, after the breaking up of the paroxysms of an intermittent by anti-periodics, will do much to prevent a return of the disease,

by removing congestions of the abdominal viscera and by keeping the portal circulation unloaded.

In our own and in many other malarious regions, the quack or secret medicine which is and has been the most in vogue, and regarded by that portion of the public who use such articles, as the most successful in the treatment of ague, is one composed of a mixture of quinia with leptandra, or ~~of~~ leptandrin, with molasses and the essence of gualtheria. I must make the admission that in my earlier practice in this region, I was often annoyed by the fact that the return of the paroxysms of intermittent fever, was, among some of my patients, much oftener prevented by the use of this potent combination, than by all the remedies which I had suggested for their benefit.

I am in the habit of administering the fluid extract of leptandra, in doses of from a few drops to a drachm, and the resinoid leptandrin, in those of from one-half to five or ten grains.

*Phytolacca decandra*, or *Poke*, an excellent remedy for some cases of chronic muscular rheumatism, has a specific relation to the parotid and mammary glands and to the tonsils. Under the use of the tincture or fluid extract of the root, given internally and applied, parotitis and mastitis have rapidly been resolved. I have not known a case of mammary abscess to occur after its early use and application. In ordinary tonsillitis and in diphtheria, I regard phytolacca as being nearly as specifically curative as guaiacum certainly is, and it is my custom to add it to the guaiac mixture.

Phytolacca is very useful in the treatment of some cases of acute articular rheumatism, even when used alone, and it adds much to the efficacy of the iodides and of colchicum in this formidable disease. I have known very many cases of this affection, which, if treated expectantly, would probably have only become *limited* at the expiration of the allotted *six weeks*, to convalesce within four days, upon treatment with the combination of these three medicines, all of them in full doses. Equally prompt cures are now being effected by large doses of salicine and of salicylic acid, but I have usually found the results of the use of the above-mentioned combination, to be the most permanent.

I give phytolacca in doses of from ten to thirty drops of the fluid extract of the root, and add an ounce of the same to three ounces of hot water for external application. In applying this to the tumid and inflamed mammae of nursing mothers, great care must be taken to withdraw the application upon the first subsidence of the inflammation, as the continued use of it will dry up the secretion of milk as certainly as will that of belladonna.

*Podophyllum Peltatum*, or *May Apple*, is almost too well known to require even a notice. I will only direct your attention to a

few of its qualities when given in minute doses. I am in the habit of using small doses of the tincture alone, or of it added to those of hydrastis and of nux-vomica, in many cases of obstinate constipation, particularly in those which will not yield to hydrastis alone, or to leptandra, or for which these are not suitable. It is peculiarly called for when the evacuations are dry, lumpy and clay-colored, or, in the cases of infants, white, and streaked with green, or when flatulence and distension are caused by deficiency or improper constitution of the biliary secretion.

In very minute doses of the tincture or of podophyllin, often as small as the one-fiftieth or one-hundredth of a grain of the latter, (still decidedly sapid preparations when triturated with sugar). Podophyllum is a very efficient remedy in profuse chronic diarrhœal discharges and in many intractable cases of cholera infantum and of marasmus. Scarcely anything could be stated about podophyllum, which has not been well written by Sydney Ringer, in his full and accurate account of the effects of this remedy.

*Polyporus officinalis*, or *Larch agaric*, a species of boletus not confined to our own country, has been used as a substitute for the better known anti-periodics. I have found it to be of decided service in chronic or in undeveloped miasmatic disease, and to compare favorably with, and act similarly to eucalyptus, in toning the nervous system, in relieving neuralgic concomitants and in checking profuse sweats. I believe it to possess marked anti-periodic properties and to be useful as a substitute for quinia, salicine, &c., when these disagree or have lost their power. I give it in five drop doses of the tincture. I have no experience of the effect of the *polyporus pinicola*.

*Polygonum Punctatum*, *Water-papper*, or *Smart-weed*, first generally introduced to the notice of the profession by Professor Eberle, and too much neglected since, I regard as one of the most prompt and certain of the emmenagogues. In amenorrhea, given during a few days before the period, it will often provoke the flow. It is the peer of gossypium and of xanthoxylum, and if not so stimulating and active as sabina, is safer. A combination of these four emmenagogues is as effectual a one in difficult cases, as I can imagine.

The fresh leaves of polygonum, in poultice, make an excellent rubefacient and counter-irritant application for the relief of thoracic and abdominal pains and inflammations. I have known an ointment prepared with the inspissated decoction, and a lotion made by adding the fluid-extract to glycerine and water, to restore the growth of the hair, in several cases of apparently hopeless alopecia.

I give the fluid extract of polygonum in doses of from thirty minims to a drachm.



*Ptelea Trifoliata*, or *Wafer Ash*, is the most efficient vegetable tonic, appetizer, and promoter of digestion known to me, and is much more potent in these respects than are gentian, quassia, columbo, cinchona, or any of the other simple, peculiar, or aromatic bitters. In atonic dyspepsia, or in convalescence from acute diseases, with disgust for food, &c., it will, notwithstanding its disagreeable taste, usually restore the appetite, and improve the peptic power, more certainly and with less tendency to irritate or to provoke nausea, than any other stomachic. Having a content of berberina, it may possess the anti-periodic properties attributed to it by some writers. Of these and of its reputed influence upon asthma, I have no knowledge. I give the fluid extract in doses of from ten to twenty minims.

*Rumex Crispus*, *Sanguinaria*, and *Scutellaria* are all extremely valuable medicines, but I pass them by, as not within the scope of this article.

*Stillingia Sylvatica* is an efficient alterative in syphilis, in scrofula, and in many obstinate skin diseases, in which I am in the habit of using it, generally in combination with the iodides, or with arsenic, the efficiency of which it increases in a marked degree. In intractable cases of chronic laryngitis, and in some of chronic bronchitis, I have used the combination of this with drosera, with decided advantage. I have found it to be particularly useful in hoarseness and in thickening of the mucous and sub-mucous investments of the larynx, glottis, and vocal chords. The cutaneous diseases most benefitted by its use have been chronic eczema and psoriasis. I give stillingia in thirty minim doses of the fluid extract.

*Veratrum Viride*, or *American Hellebore*. After the exhaustive articles of H. C. Wood, Jr., and of Stillé, particularly the account of the researches of the former as to the physiological effects of this drug, and of its alkaloids, it would seem that little remains to be written in regard to it. *Veratrum viride*, "though it do work as strong as aconitum," may be employed in such a manner, as to be as gently efficacious as aconite is, and to be more potent and applicable for the conditions in which that most valuable drug is prescribed, and to be made capable of fulfilling indications which cannot be met by the use of the latter. It is one of our most powerful weapons, and it may be used to strike very effective blows against the patient, as well as upon his disease. But, with a full knowledge of its powers, a careful watching of its effects, and the proper uses of the guards and shields against its excesses, it is, in cautious hands, our best substitute for the venesection, the purgative, and the other depressing means used by our recent predecessors. In cerebral fullness or inflammation, in pneumonia, pleurisy, inflammatory or pseudo-membranous laryngitis, acute

bronchitis, acute articular rheumatism, sthenic convulsions, cardiac excitement, inflammation, or hypertrophy, its use can scarcely be dispensed with. Its timely employment will often result in the abridgement or even resolution of the most active inflammatory processes, of many of which it is truly the best means of *limitation*. Its great power of controlling the excited heart, of averting the successive hammering blows of the angry organ upon congested and inflamed tissues, make it the most perfect and successful governor of the circulation known to us. By its use, the pulse can be reduced to or below the normal standard, and, with proper precautions, kept at the rate which the practitioner desires. Like the great Nasmyth hammer, which can be so regulated that it will, at the option of the engineer, crack the end of an egg-shell without disturbing the contents, or crush any enormous mass placed under it, or, like the "trembler" of a galvano-faradic machine, which, under the operator's guidance, will slowly beat the seconds, or wildly multiply its jarring sounds; so, under the proper use and government of veratrum, can the heart, the pulse, and the blood currents be made to respond to the order of the administrator. The early use of a combination of veratrum, in full doses, with gelsemin and with tartar emetic, in ordinary croupal coughs, in catarrhal colds, and in bronchial and pulmonary congestions, will generally result in a prompt and complete resolution of the morbid conditions involved. Even in pneumonia, both catarrhal and croupous, an early subsidence of all the morbid phenomena is no uncommon result of the timely use of veratrum, particularly when so combined. In asthenic pneumonia, the veratrum alone may be used in small doses, with great advantage, and with the result of steadying and strengthening, as well as of slowing the heart-beat. In the great majority of cases, the addition to veratrum viride of morphia and of an aromatic, will modify or prevent its excessive action, and permit of its employment, without danger of nausea or of excessive sedation. Of course, its use, in full doses, is inadmissible in acute gastritis, or in any condition attended by extreme nausea.

One of our ablest therapeutic writers asserts that veratrum is entirely inapplicable in peritonitis. I can only report that by properly combining this powerful sedative with morphia, used hypodermically, or by enema, I have obtained more general good results in both frank and in puerperal peritonitis, than from the opiate treatment alone, or from any other.

By the proper employment of veratrum, the strain of the excited circulation may, in most cases, be removed from congested or inflamed organs, and be kept averted, until the time comes for the tiding over of the crisis, and for the restoring influence of the *vis medicatrix* to assert itself.

For the condition generally existing in puerperal mania, it, in full doses, combined with gelseminum, is the remedy, "*par excellence*." For puerperal eclampsia, it may, almost always be used in conjunction with the bromides, chloral, gelseminum, and chloroform. In infantile convulsions, due to cerebral hyperæmia or to dental irritation, it is invaluable.

The conclusions derived by our best writers from an examination of the physiological influence of *veratrum viride* are, that owing to the combined action of its jervia and veratroidia, it, in small doses, powerfully stimulates the inhibitory nerves of the heart, causing diminished force and number of heart-impulses, while in larger ones, less than the destructive ones, it paralyses this nervous apparatus, causing a rapid and feeble pulse, a reduction in frequency of the respiratory act, nausea and vomiting, pallor and disposition to syncope. Writers differ as to its power of reducing the temperature, when given in health.

My own experience of *veratrum* in disease, leads me to use it in as full doses as can be borne, in conditions of fever and of inflammation, in which the pulse is rapid, full, and bounding, or tense and corded. These doses I usually combine, at the start, with moderate ones of tincture of ginger and of the opiate which is most agreeable to the patient's stomach and brain. In such cases, even with the descent of the number of heart-beats far below the standard, and a great reduction of the temperature, I have generally been surprised at the continued persistent force, regularity, and fullness of the pulse, and I have not often known this to become—as most writers assert—very soft, feeble, or compressible, when under a less than a powerfully toxic effect of the drug, or until the complete resolution of the fever.

Given in small doses, e. g., those of a single drop or less of Norwood's tincture, in adynamic conditions, *veratrum* generally slows the rapid pulse, causes the contracted, the feeble, and the fluttering one to become fuller, stronger, and more uniform, and the intermitting one to become more regular, and seems to give tone and strength to the enfeebled heart and vascular system, with a decided effect in increasing the salivary, biliary, cutaneous, and renal secretions, in unloading congested viscera and in restoring the balance of the circulation. When oppression and disturbance of the circulation, and defective action of many organic functions are dependent upon the presence of a *materies morbi*, and the deficiency of the most important secretions, and of the elimination of excrementitious matter; when *waste of the tissues* is indicated, the combination of *veratrum* with *podophyllum*, in moderate doses, will often fulfill all the indications.

Having no specific influence upon the glands affected in typhoid fever, *veratrum* is not necessarily applicable to this disease, but its employment, in small doses, in some of the stages

of the fever, as in those of other adynamic diseases, is often safe and most useful in reducing the temperature, in steadying and slowing the heart-beat, and in quieting cerebral excitement.

The tincture of veratrum is an excellent application to incipient erysipelas, and will frequently cause this disease to abort. Equally serviceable is it as a means of arresting the progress of paronychia and of other phlegmonous inflammations. I have known the commencing furuncle and anthrax to be dissipated by its use, almost as rapidly as they generally are by that of the permanganate of potassium.

Dr. J. S. Todd, of Georgia, states, recently, some interesting facts which would indicate the reciprocally antidotal powers of veratrum and of opium, and has known opium narcosis to yield rapidly to large doses of veratrum. That in veratrum poisoning, opium is the remedy to be employed, I have no doubt. By the latter, I have long been in the habit of holding in check the toxic effects of veratrum, while still obtaining, in most cases, all of its therapeutic ones.

*Verbascum Thapsus*, or *Mullein*. I have lately been using the infusion of the fresh leaves, or the fluid-extract of the same parts of this plant, *per orem* and *per anum*, as a remedy for painful hemorrhoids, attended by constipation, and think well of them. Two of my female and one of my male patients assert that they have been entirely cured of long-standing and painful piles, by drinking thrice daily, a wineglassfull of the infusion, and by the daily use of an enema of the same before the morning evacuation. The infusion is demulcent, and is a mild and agreeable laxative. The fluid-extract, in drachm doses, has the same properties.

*Viburnum Opulus*, or *High Cranberry*, and *V. Prunifolium*, or *Black Haw*, seem to be anti-spasmodic, and to have a specific action upon the uterus. I have only used the first named of these. My employment of it has convinced me that it is a uterine sedative, and often a remedy for neuralgic dysmenorrhea, and for the commonly associated spinal irritation. I have been in the habit of giving the concentrated tincture, in five or ten minim doses, for these conditions, and also as a preventive of threatened abortion. I believe that, in a majority of cases, it has accomplished the object for which it was given.

*Xanthoxylum Fraxineum*, or *Prickly Ash*, is very unlike the last mentioned medicine, and is certainly a powerfully stimulating emmenagogue. Its employment, in doses of a few drops, will frequently restore the menses, particularly in lymphatic women with languid circulations. It is a stimulant and an irritant of the mucous membranes, a sialogogue and a carminative. In full doses, or in medium ones, it will produce in certain idiosyncrasies, alarming nervous symptoms, with formication, twitching of the tendons, and feelings similar to those which follow an overwhelming elec-



tric shock. I know of no better means of rousing the circulation and of permanently increasing the temperature of habitually *cold feet*, than that of soaking these extremities, nightly, in a warm decoction of an ounce of the root to a quart of water.

I am disposed to think that xanthoxylum, locally applied, will be found to be a galactagogue. I advance this *notion* with hesitation, having the experience of but a few apparent facts upon which to base it.

For internal use, I prefer a tincture of the bark to that of the berries, and rarely give this in larger doses than those of five or ten minims.

I have thus made the attempt to summarize, briefly and only desultorily, what have seemed to me to be the most notable medicinal qualities of the more active of those native plants of our country, which—with the exceptions of veratrum and podophyllum—have not received the general appreciation of which I have deemed them to be worthy. Even the small portion of the ground occupied by those plants of our indigenous flora which have been proven to be worthy of employment by us, because of their possession of properties which make them antagonistic to morbid conditions, has by no means been fully surveyed by me, or mapped out in the brief synoptic chart which I have endeavored to prepare. The territory is immense and for the nonce inexhaustible, and will require the combined efforts during many years, of the botanist and of the medical experimenter, for its complete examination and development.

Among many other plants unnoticed in this article, I might, from personal observation, have made favorable mention of aletris, alnus, aralia hispida and spinosa, asarum canadense, cactus, (common to other tropical regions, as well as to those of our own continent,) coptis, cypripedium, eryngium, euonymus, eupatorium purpureum, fraxinus, gymnocladus, helonias, kalmia, lachnanthes, ledum, lycopus, magnoliatripetala, mitchella, myrica, passiflora, plantago, populus tremuloides, prinus, rhus glabrum and rhus toxicodendron, senecio, silphium, trillium, and zizia aurea. All of these possess properties which should make them the objects of attention and of experiment, and most of them have very definite specific relations to morbid conditions of the animal frame.

If what I have now written should exert no other influence than that of directing increased attention to the medicines of which I have given some account; or than that of assisting in a slight degree to forward a *revival of faith* in some of the methods of drug-medication; even if my statements as to the substances mentioned should prove to be unfounded or unconvincing, my object will yet have been accomplished.



